

Presenter: Rich Palladino
Title: President
Organization: Aerix Industries
Email: rpalladino@aerixindustries.com
Cell: 303-885-5494

Using Foam as a Transportation Medium For Backfilling Underground Voids

Underground voids are the result of historic mining, active mining, and some are naturally occurring. In the case of abandoned underground mine voids, surface subsidence can occur as the old mine workings collapse, resulting in potential property damage and dangerous surface openings. Usually, these voids and mine workings are inaccessible and backfilling work must be conducted remotely, through boreholes drilled from the surface, that provide a conduit for the backfill material.

Traditional remote backfilling methodologies include hydraulic backfilling, which requires large volumes of water to transport the material, and grouting, which incorporates portland cement and/or fly ash with sand, resulting in a strong, but costly void filler.

ARX-Transport[™] technology was developed as a cost-effective alternative to traditional backfilling methods, by replacing the water, cement and fly ash, with pre-generated foam to transport the sand or other backfill material into open voids. The foam dissipates in 24 to 48 hours, leaving only the backfill material, which self-compacts. The foam can be engineered for greater or lesser persistence, depending on the dissipation requirements.

For attendees, learning objectives and topics to be discussed include:

1. Description of the technology and concept
2. Subsidence mitigation for AML applications
3. Gravity placement application without pumping
4. Placement application using pumping equipment
5. Underwater placement applications (inundated voids)
6. Potential for use in active mines for stope filling
7. Potential for transportation of mine tailings to tailings ponds
8. General and relative comparison of costs with other backfilling methods